16. Department of Agriculture. The Department of Agriculture was engaged, as usual, in the analysis of soils, the conduct of manurial and other experiments, the demonstration of improvements alike on departmental farms and private lands, the selection and distribution of seeds, the introduction of improved agricultural implements, and the popularisation of scientific methods. Important crops like paddy, cocoanut, sugar-cane, tapioca and pepper are receiving attention at the hands of the department and arrangements are being made for conducting experiments in the improvement of other crops of commercial value like ginger. The cultivator has begun to appreciate the value of selected seeds of improved varieties, and the work of seed selection has therefore been largely extended of late. A number of seed unions have been organised, and it is reported that 65,538 lbs. of paddy seeds, 26,271 seed cocoanuts and 20,373 cocoanut seedlings have been sold through the efforts of the department during the past three years. The major portion of the wet lands in South Travancore has been brought under the system of economic transplantation of one to three seedlings, while the success of the experiments conducted on the *punja* lands at Alleppey has served to popularise the annual cultivation of such lands in Kuttanad. Varieties of short-term paddy are being popularised at the tail-end of the areas commanded by the Kodayar channels and arrangements are nearing completion for growing green manure for demonstrational purposes in South Travancore. The Industrial Engineer is investigating the problem of sinking wells and lifting water on high level lands where commercial crops like banana and sugar-cane can be profitably grown. The results of the manurial experiments conducted by the Agricultural Department have brought home to the cultivators the value of scientific manures and several of them have begun to manufacture their own manures on lines recommended by the department. There has been a steady rise in the number of agencies for the sale of manure, and 17 departmental depôts and 38 branch depots under the management of commission agents were catering to the needs of agriculturists in this respect in 1098. While the Meston and the Climax ploughs are popular on the South Travancore heavy soils, the Alwaye plough, made in the local agricultural school, and the Pallikkal plough, manufactured under the supervision of Mr. K. G. Thomas, a Member of the Assembly, both of which are light and cheap, are reported to be gaining ground in North and Central Travancore. In 1098, Travancore imported paddy and rice to the value of about Rs. 229 lakhs, which works out at about Bh. Rs. $5\frac{3}{4}$ per head of population. However much the Government may strive to extend the area of food production in the country, there must necessarily be a limit to those efforts, and it is only by the universal adoption of intensive cultivation on approved and up-to-date lines that the dependence of Travancore in this respect can be appreciably reduced. Towards this end the Department of Agriculture is steadily working and it is up to the cultivator to reap the benefits of that work to the fullest extent. The first farm devoted exclusively to the cultivation of fruit trees has been opened at Cape Comorin and much preliminary work has been done in that farm. The extension of pine-apple cultivation is being pushed on in the farms at Kottarakara and Trivandrum and the experimental cultivation of potatoes has been ordered to be commenced on the High Ranges. The Director has not yet matured his proposals for the opening of fruit farms on the High Ranges. In the same region, the cardamom disease has been working a great deal of havoc and it has been proved by observation that the most effective method of eradicating that disease is to replace all infected plants by specially selected healthy seedlings. As the average Indian planter is too ignorant to take the necessary initiative in this matter, the department has been directed to open a cardamom nursery at Vandanmet. In view of the popularity and success of the Agricultural Middle School at Alwaye, Government have decided to open a similar school at Kottarakara, and the necessary buildings will be constructed before the close of the current year. Rug and blanket making has been introduced in the Trivandrum Silk Farm with effect from Edavam 1098, and the ten boys under training in that farm are taught this industry in addition to silk-weaving.

The veterinary work of the department has also been making good progress, the number of animals treated rising from 7,724 in 1096 to 10,021 in 1098. The sale of calves of improved breeds from the cattle-farms of Trivandrum and

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Isantimangalam and the continuance of the system of grants for selected bulls are some of the steps taken for the improvement of local cattle.

17. The number of fish-curing yards rose from 2 in 1096 to 7 in 1098, and since then another fish-curing yard has been opened at Nindakara, while a further one will soon be established at Cape Comorin. The quantity of fish cured has risen from 18,376 maunds in 1096 to 53,463 maunds in 1098. Experiments on fish and fruit canning are being continued at the laboratory attached to the Director's office and the fish and fruit canned at the laboratory have been sent to the British Empire Exhibition.

18. Mr. K. Parameswaran Pillai of the Agricultural Department has, on his return from study leave from Great Britain, been appointed as the Assistant Director of Agriculture, and he is expected to strengthen the hands of the Director with his long experience of the department and the new qualifications he has acquired. The Mycologist, who was sent on study leave to secure additional qualifications in his work by further study in European Universities, has not returned, and mycological work has consequently suffered; but an Economic Botanist has been temporarily added to the *cadre* of the superior staff of the department and he is conducting research work in the evolution of better strains of staple grains.

19. The expenditure on the Department of Agriculture and Fisheries, which stood at Rs. 1,42,134 in 1095, has risen to Rs. 1,95,564 in 1098, the allotment in the budget for 1099 being Rs. 2,11,900. The Apicultural branch of the Department of Industries has been recently transferred to this department.

20. Irrigation and Drainage. Realising that the attention bestowed on minor irrigation works in the past was far from adequate, an appreciable advance was made in that direction in 1098, the expenditure rising to Rs. 70,685 from Rs. 32,564 in the previous year. The budget grant under this head in 1099 is Rs. 1,14,100 and several irrigation tanks in the Kalkulam, Vilavankod and Neyyattinkara taluks have already been taken up for restoration. The restoration of the Marutur channel in Neyyattinkara, the Tettiyar in Trivandrum, and the flood-banks of the Kallada river in Quilon also deserve mention in this connection. With a view to secure more rapid progress under this head, a small special staff has been appointed for the investigation and execution of minor irrigation works in the Trivandrum Division. The committee appointed to examine the condition of minor irrigation works in the Trivandrum taluk has not yet submitted its report. The constitution of irrigation boards for the construction of bunds on, and the pumping out of water from, *punja* lands in Kuttanad is pending the results of a conference with the interested landholders, which has just been held. The result of a preliminary investigation into the feasibility of utilising the water of the Sastankotta lake for irrigation is not encouraging; but the Chief Engineer has promised to make a further scrutiny of the scheme. The Cochin Government have, within the last few days, given a qualified consent to the execution of the Adirapalli scheme, but the conditions specified require further examination.

21. Forest. The administration of this important department on economic and beneficial lines is a matter of the utmost concern to the Government as well as to the people, but the difficulties of the task, by no means inconsiderable, have been accentuated by the coupe sale system introduced at the instance of the penultimate Conservator, the excessive working down of timber permitted by the late Conservator, and the prevailing slump in the timber market. The combined result has been the relinquishment of valuable timber for nominal prices, the deterioration in depôts of timber which should otherwise have fetched good prices, and a great fall in the revenue of the department. It is a matter of vital necessity to the Forest Department not only to find better markets for the products now in demand, but also to create markets for those that have not hitherto been in requisition. With a view to help the department in these directions, Government contemplate bringing it into direct touch with important centres of consumption like London and Bombay. Dr. N. Kunjan Pillai, the Director of Agriculture and Fisheries, who is now in England in connection with the British Empire Exhibition, has been commissioned to explore this possibility in regard to London, while Mr. K. S. Narayana Aiyangar, who has taken up the work of forest utilisation since his relief from the Forest College,

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